CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. R2-2003-0109
NPDES PERMIT NO. CA0038067

AMENDING WASTE DISCHARGE REQUIREMENTS FOR:

SAUSALITO-MARIN CITY SANITARY DISTRICT
SAUSALITO, MARIN COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board) finds that:

1. The Board adopted waste discharge requirements for the Sausalito-Marin City Sanitary District Wastewater Treatment Plant (Order No. 00-060) (hereinafter called the Discharger) on July 19, 2000, to discharge wastewater to the waters of the State and the United States through a deep water outfall under the National Pollutant Discharge Elimination System (NPDES).

2. The Discharger owns and operates the Sausalito-Marin City Sanitary District Wastewater Treatment Plant, which provides secondary treatment of domestic wastewater from the City of Sausalito, Marin City (County), Tamalpais Community Services District, and Golden Gate National Recreation Area. The treatment plant has an average dry weather design capacity of 1.8 million gallons per day (MGD), and 5.5 MGD during wet weather flow period.

3. The treatment processes consist of primary sedimentation, followed by biological treatment using fixed film reactors, followed by secondary clarification, rotating disk screening, sand filtration, chlorination and dechlorination.

4. Treated effluent is currently discharged 300 feet offshore at a 30-foot depth into Central San Francisco Bay through a submerged diffuser. The discharge is classified by the Board as a deepwater discharge.

5. Beneficial uses for the Central San Francisco Bay and contiguous waters, as identified in the Basin Plan and based on known uses of the receiving waters in the vicinity of the discharges, are:
    - Industrial Service Supply
    - Industrial Process Supply
    - Navigation
    - Water Contact Recreation
    - Non-contact Water Recreation
    - Ocean Commercial and Sport Fishing
    - Wildlife Habitat
    - Preservation of Rare and Endangered Species
    - Fish Migration
    - Fish Spawning
    - Shellfish Harvesting
    - Estuarine Habitat

6. Effluent Limit B.3. of the existing permit, Order No. 00-060, imposes a total coliform five-sample median limit of 240 MPN (most probable number) per 100 milliliters (MPN/100 mL), and a single sample maximum of 10,000 MPN/100 mL.

7. The reopening and subsequent amendment of Order No. 00-060, is allowed by Section 13263(e) of the Porter Cologne Water Quality Control Act, 1998, which states:

   "Upon application by any affected person, or on its own motion, the regional board may review and revise requirements. All requirements shall be reviewed periodically."

8. *Provision for Amendment.* Effluent Limit B.3.c. of the existing permit provides that:

   "The discharger may use alternate fecal coliform limits of bacteriological quality instead of meeting 3.a. and 3.b above (total coliform limits) provided that it can be conclusively demonstrated through a program approved by the Board that such a substitution will not result in unacceptable adverse impacts on the beneficial uses of the receiving water."

9. *Basis of the Amendment.* The bacteriological criteria for a moderately used area from Table 3-2 of the Basin Plan can be applied to ensure protection of beneficial uses of the Central San Francisco Bay. An enterococcus effluent limit expressed as the 30-day geometric mean of 35 colonies/100 mL and a single sample maximum of 124 colonies/100 mL is being applied directly to the discharge.

10. *California Environmental Quality Act Compliance.* This amendment of waste discharge requirements is exempt from the environmental impact analysis provisions of the California Environmental Quality Act (CEQA) (Public Resources Code, Section 21000 et seq.). (Water Code Section 13389; California Code of Regulations, Title 14, Section 15263.)

11. The Dischargers and interested agencies and persons have been notified of the Board's intent to amend the requirements for the existing discharge and have been provided an opportunity to submit their written views and recommendations.

12. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that Order No. 00-060 is amended as described in the following items and effective upon adoption by the Board. To distinguish the original language contained in Order No. 00-060, from this Order, all the amendments are highlighted by underline for additions and ~~strikethrough~~ for deletions.

FINDINGS

50. Bacteriological Limits

On June 20, 2002 the Discharger submitted a study plan to determine whether the effluent limit in their NPDES permit could be changed from total coliform to enterococci without adversely impacting bacteria levels in Central San Francisco Bay. On August 2, 2002, the study plan was approved by the Executive Officer. From August 2002 through January 2003, the Discharger conducted concurrent effluent testing for total coliform and enterococcus, while sequentially reducing the chlorine dose over time. Through this study, the Discharger demonstrated that decreased chlorine doses and the resultant exceedances of the total coliform limit, did not result in any significant enterococci levels. At the reduced steady state chlorine set-point of 1.5 mg/L, enterococci levels in effluent never exceeded the 30-day geometric mean or single sample maximum effluent limitations. Furthermore, the

Discharger's Bacteria Study Final Report shows that for all receiving water samples collected, enterococci values at the point of discharge, as well as neighboring locations, were below the water quality objective (Basin Plan Table 3-2). Attachments A, B, and C show the receiving-water sampling, receiving water bacteria data, and effluent bacteria data, respectively.

51. According to Implementation Guidance for Ambient Water Quality Criteria for Bacteria, U.S. Environmental Protection Agency, 1986, enterococci organisms are better indicators of potential adverse health effects than either total or fecal coliforms for marine water bodies, such as Central San Francisco Bay. In addition, conversion to enterococci limits will require the use of less chlorine, thereby reducing the discharge of chlorinated byproducts, which are recognized as carcinogenic.

52. The above-mentioned study provides new information, not available at the time the Discharger's permit was issued, which justifies application of an alternate bacteria indicator limit. Therefore, the revised effluent limit does not violate the anti-backsliding provision of section 402(o)(2)(B)(i) of the Clean Water Act. The revised effluent limit will not result in any decrease in water quality, and therefore it is consistent with the State Board Resolution 68-16 (Anti-degradation Policy) and with the Federal Anti-degradation Rule (40 CFR 131.12)

B. EFFLUENT LIMITATIONS

3. ~~Total Coliform Bacteria~~ Enterococci Bacteria:
The treated wastewater, at some point in the treatment process prior to discharge, shall meet the following limits of bacteriological quality:

   a. ~~The moving median value for the Most Probable Number (MPN) of total coliform bacteria in five (5) consecutive samples shall not exceed 240 MPN/100 ml; and~~ The 30-day geometric mean shall not exceed 35 colonies per 100 mL of effluent sample; and

   b. ~~Any single sample shall not exceed 10,000 MPN/100 ml.~~ Any single sample shall not exceed 124 colonies per 100 mL of effluent sample as verified by a follow-up sample taken within 24 hours.

   ~~c. The discharger may use alternate fecal coliform limits of bacteriological quality instead of meeting 3.a. and 3.b. above (total coliform limits) provided that it can be conclusively demonstrated through a program approved by the Board that such a substitution will not result in unacceptable adverse impacts on the beneficial uses of the receiving water.~~

   ~~The total coliform limit is exempted for up to 6 months during the study period as long as it can be demonstrated that the total coliform exceedance is due to the coliform study being performed.~~

SELF-MONITORING PROGRAM
V. SCHEDULE of SAMPLING, ANALYSES and OBSERVATIONS

TABLE 1 – SCHEDULE OF SAMPLING, ANALYSES AND OBSERVATIONS [1]

Sampling Station:			A-001	E-001	
			Influent	Effluent to Central San Francisco Bay	
Type of Sample:			C-24	G	C-24
Parameter	**Units**	**Notes**	[1]		
Flow Rate	mgd	[2]	Cont/D		Cont/D
PH	pH units			D	
Temperature	°C			D	
Dissolved Oxygen	mg/L			D	
$BOD_5$20°C/CBOD	mg/L		2/W		2/W
TSS	mg/L		2/W		2/W
Oil & Grease	mg/L	[3]		Q	
Settleable Matter	ml/l-hr	[4]		2/W	
~~Fecal Coliform~~ Enterococci	MPN / 100 ml	[10]		~~35~~/ W	
Chlorine Residual	mg/L	[5]			Cont./2h
Acute Toxicity	% Surv'l	[6]			M
Chronic Toxicity		[7]			2/Y
Cyanide	ug/L				M
Mercury, Copper, Lead, Nickel, Selenium, and Zinc	ug/L & kg/mo				M (kg/mo measurements for Hg and Se, only)
Metals	ug/L	[8]			2/Y (dry and wet weather)
Table 2 Selected	ug/L	[9]			2/Y for three years
Constituents					
Standard Observations				M	

Footnotes for Table 1

[10] The Idexx-Enterolert method or the EPA Method 1600 are approved for use by the Discharger for the Enterococci determination. Upon collection of 12 months of data demonstrating consistent compliance with the effluent bacterial limitations, the Discharger may submit a request to the Executive Officer for a reduction in sampling frequency.

IX. RECORDING REQUIREMENTS – RECORDS TO BE MAINTAINED

D. Disinfection Process.

For the disinfection process, records shall be maintained documenting process operation and performance, including the following:

1. For bacteriological analyses:
   a. Date and time of each sample collected
   b. Wastewater flow rate at the time of sample collection
   c. Results of sample analyses (~~coliform~~ Enterococci count)
   d. Required statistical parameters of cumulative ~~coliform~~ Enterococci values (eg, ~~moving median or log mean~~ geometric mean for number of samples or sampling period identified in waste discharge requirements).

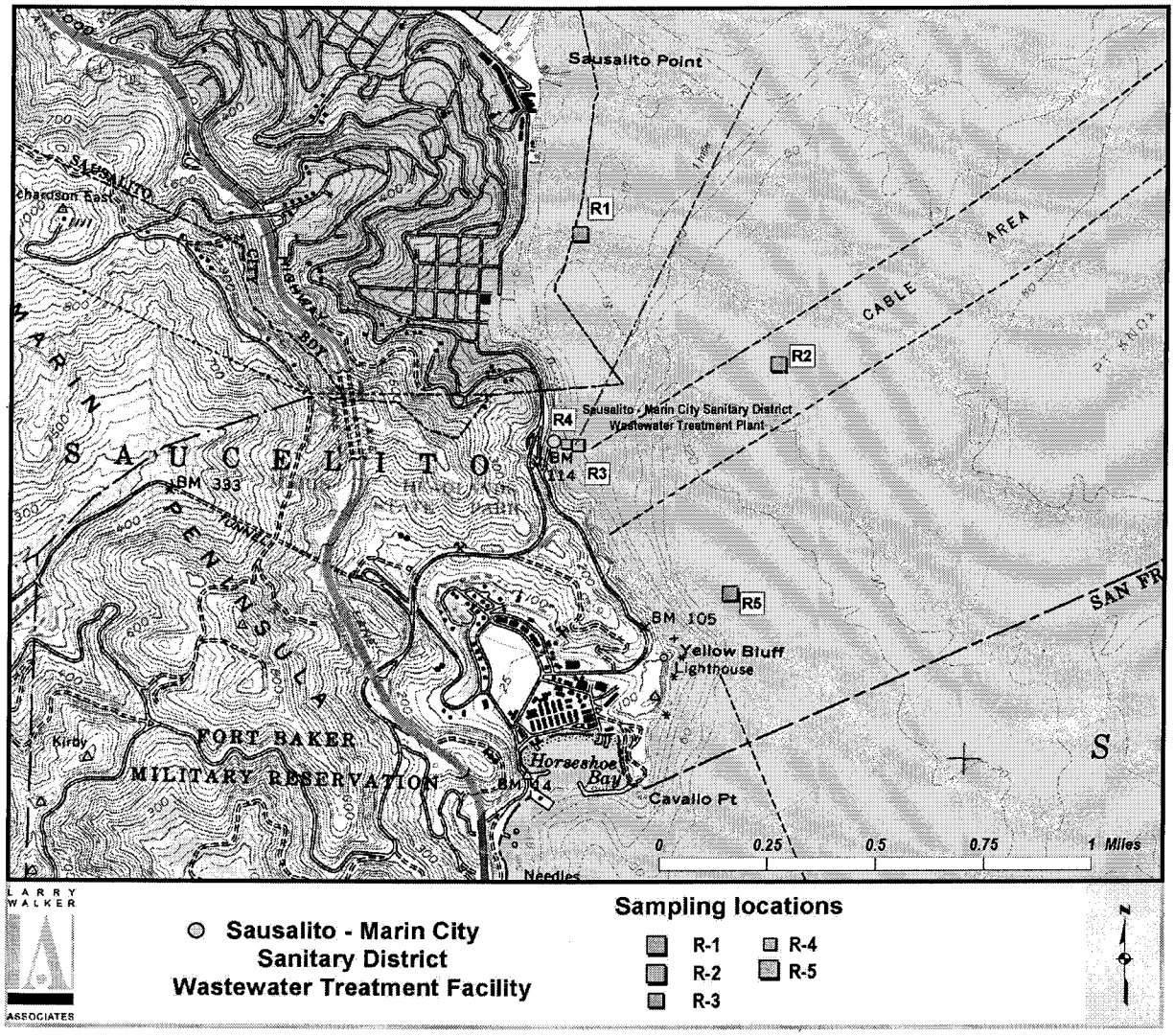
2. For chlorination process, at least daily average values for the following:
   a. Chlorine residual in contact basin (mg/L)
   b. Contact time (minutes)
   c. Chlorine dosage (kg/day)

I, Bruce H. Wolfe, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Board, San Francisco Bay Region on December 3, 2003.

Bruce H. Wolfe
Executive Officer

Attachment A: Facility Location Map
Attachment B: Receiving Water Enterococci Data
Attachment C: Effluent Bacteria Data

Attachment A *– Facility Location Map*



Attachment B – Receiving Water Enterococci Data

Date	Chlorine Setpoint (mg/L)	Enterococcus (CFU/100mL)				
		R1	R2	R3	R4	R5
8/14/200	5.0	2	< 2	2	2	< 2
8/26/200	4.5	< 2	< 2	< 2	12	< 2
9/4/200	4.0	< 2	< 2	< 2	< 2	< 2
9/16/200	4.0	< 2	< 2	< 2	< 2	< 2
10/7/200	3.0	< 2	< 2	< 2	2	< 2
10/14/20	2.5	2	< 2	4	2	< 2
10/23/20	2.5	< 2	2	< 2	< 2	< 2
11/4/200	2.0	< 2	< 2	< 2	< 2	< 2
11/13/20	2.0	< 2	< 2	< 2	4	< 2
11/25/20	1.5	< 2	< 2	< 2	2	2
12/4/200	1.0	2	< 2	8	6	< 2
12/18/20	0.5	14	62	12	20	18
1/9/200	1.5	*	14	14	*	4
1/23/200	1.5	*	*	42	16	*

* No sample collected. Several factors complicated efforts to collect samples in January, including bad weather days making boat sampling unsafe.

Attachment C *- Effluent Bacteria Data*

		Total Coliforms		Enterococcus			Total Coliforms		Enterococcus
Date	Chlorine Setpoint	Single Sample	5-day Moving Median	Single Sample	**Date**	Chlorine Setpoint	Single Sample	5-day Moving Median	Single Sample
8/2/2002	5.0	110			11/6/2002	2.0	270	685	< 2
8/5/2002	5.0	300		< 2	11/8/2002	2.0	16000	270	
8/7/2002	5.0	300		< 2	11/11/2002	2.0	260	270	
8/9/2002	5.0	300			11/13/2002	2.0	1300	785	< 2
8/12/2002	5.0	300	300	< 2	11/15/2002	2.0	500	500	
8/14/2002	5.0	2200	300	< 2	11/18/2002	1.5	3000	1300	< 2
8/16/2002	4.5	80	300		11/20/2002	1.5	9000	1300	2
8/19/2002	4.5	40	300	< 2	11/22/2002	1.5	> 16000	3000	
8/21/2002	4.5	40	80	< 2	11/25/2002	1.5	> 16000	9000	< 2
8/26/2002	4.5	20	40	< 2	11/29/2002	1.5	230	12500	
8/28/2002	4.5	20	30	< 2	12/2/2002	1.0	16000	16000	2
8/30/2002	4.5	40	30		12/4/2002	1.0	> 16000	16000	4
9/2/2002	4.0	40	30		12/6/2002	1.0	> 16000	16000	
9/3/2002	4.0	20	20	< 2	12/9/2002	1.0	16000	16000	320
9/4/2002	4.0	230	40	< 2	12/11/2002	1.0	2400	16000	2
9/6/2002	4.0	> 16000	40		12/13/2002	1.0	> 16000	16000	
9/9/2002	4.0	40	40	< 2	12/16/2002	0.5	> 16000	16000	1600
9/11/2002	4.0	110	110	2	12/18/2002	1.5	500	16000	< 100*
9/13/2002	4.0	220	220		12/23/2002	1.5	40	2400	< 100*
9/16/2002	4.0	170	170	< 2	12/26/2002	1.5	170	500	< 100*
9/18/2002	3.5	500	170	< 2	12/27/2002	1.5	1300	500	
9/20/2002	3.5	220	220		12/30/2002	1.5	500	500	100*
9/23/2002	3.5	80	220	< 2	1/2/2003	1.5	220	220	10
9/25/2002	3.5	70	170	< 2	1/3/2003	1.5	2400	500	
9/27/2002	3.5	170	170		1/6/2003	1.5	> 170	500	< 2
9/30/2002	3.0	130	130		1/9/2003	1.5	800	500	6
10/2/2002	3.0	20	80		1/10/2003	1.5	3500	800	
10/4/2002	3.0	500	130		1/13/2003	1.5	1300	1300	2
10/7/2002	3.0	70	130	< 2	1/15/2003	1.5	1300	1300	4
10/9/2002	3.0	40	70	< 2	1/17/2003	1.5	500	1300	
10/11/2002	3.0	40	40		1/20/2003	1.5	> 16000	1300	30
10/14/2002	2.5	170	70	< 2	1/23/2003	1.5	5000	1300	98
10/16/2002	2.5	300	70	< 2	1/24/2003	1.5	170	1300	
10/18/2002	2.5	230	170		1/27/2003	1.5	900	900	< 2
10/22/2002	2.5	170	170	< 2	1/29/2003	1.5	1300	1300	< 2
10/23/2002	2.5	40	170	< 2	1/31/2003	1.5	130	900	
10/25/2002	2.5	80	170		Notes:				
10/28/2002	2.5	1700	170		* - Turbidity in samples raised enterococcus detection limit to 100 CFU/100mL.				
10/29/2002	2.0	1100	170	2					
10/30/2002	2.0	500	500	< 2					
11/1/2002	2.0	260	500						
11/4/2002	2.0	3000	1100	< 2					